UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,834	07/21/2003	Jean-Marc Karl Edgard Maurice Virgin	HOE-767	9246

20028 7590 09/02/2010

Lipsitz & McAllister, LLC
755 MAIN STREET
MONROE, CT 06468

EXAMINER	
THOMAS, LUCY M	

ART UNIT	PAPER NUMBER
2836	

NOTIFICATION DATE	DELIVERY MODE
09/02/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

info@patlawfirm.com

Office Action Summary	Application No.	Applicant(s)	
	10/626,834	VIRGIN ET AL.	
	Examiner	Art Unit	
	Lucy Thomas	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 May 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *40,41,43-82,85,86 and 90-93* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *40,41,43-82,85,86 and 90-93* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/24/2010*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 40-41, 43-81, 85-86, and 90-93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thrash (US 5,801,914) in view of Saito et al. (US 6,243,018). Regarding Claim 40, Thrash discloses a line arrangement for an electrical system (Figures 1-3), the electrical system comprising

a power source connected to a current feed terminal for supplying current and to a second terminal (power source connected to with a current feed terminal (see terminal connected to 18),

with at least one electrical device 26 (26 is a PTC material, schematically represented as resistors in Figure 3) connected to a current delivery terminal (point where conductor 28 is connected to load 26) and the second terminal (see resistors connected to 28 and 30), the line arrangement providing electrical power from the power source to the electrical device and comprising:

an electrical supply line (see supply line connected to 18) running from the current feed terminal to the current delivery terminal and having at least one current-carrying inner conductor 28 electrically connecting the current feed terminal and the

current delivery terminal and at least one electrically isolating protective sheath 32 surrounding the inner conductor (32 surrounds 28),

a detector element 34 (34 can be a conductive/optical fiber) embedded within a protective enclosure over an extent of the supply line (see 32 protective enclosure of 32 surrounding 36),

the detector element having at least one of an optical property and an electrical property, changes of the optical properties being detectable by a detecting means (see 58 connected to 42 in Figure 3),

the detector element being adapted in such a way that the electrical property is irreversibly changed (conductive fiber breaks open) when a local arc (parallel and/or serial) originating from the current-carrying inner conductor occurs, irrespective of a direction of the parallel arc (see the recited, "will quickly break open if excessive overheating conditions develop such that caused by an electrical arc" in Column 7, lines 3-13, see also, Column 2, lines 3-8, Column 6, lines 54-59, Column 1, lines 47-48, Column 3, lines 8-28, Thrash's system includes the electrical system of a vehicle, and therefore meets the limitation of arc to a body component of a vehicle), and

an isolating circuit 37 responsive to the change of the at least one of the electrical and optical properties of the detector element and connected to the current feed terminal, the isolating circuit isolating the current-carrying inner conductor from a current source when a change of the electrical property of the detector element is detected by the detecting means (relay switch 44 of safety circuit 37 isolates conductor

28 from current/power source, in case of excessive overheating, column 7, lines 1-1, Column 6, lines 54-59).

Regarding the limitation of for an electrical system of a vehicle, and to a body component of the vehicle: Thrash discloses in Column 2, lines 3-8, that the "invention can be implemented in all types of electrical circuits, electrical devices, and power cords, including, but not limited to electric blankets, electric heating pads, electric motors, and wiring circuitry for building" and therefore, includes the electrical system of a vehicle. Furthermore, it is noted that the limitation, for an electrical system of vehicles/to a body component of a vehicle, is interpreted as the intended use of the line arrangement, and as such, as long as Thrash's line arrangement is capable of being used for an electrical system of a vehicle, the reference meets the limitations.

Thrash does not disclose that the detector element with successive windings surrounds the supply line.

Saito discloses a line arrangement 1 for electrical systems of vehicles (Figure 1, Column 1, lines 10-12), comprising: an electrical supply line running from a current feed terminal to a current delivery terminal and having at least one current-carrying .inner conductor (see conductors inside 3, 4, 5, Column 5, lines 59-61) and at least one protective sheath (see outer part of 3, 4, 5, Column 5, lines 46-47) surrounding the inner conductor, a detector element 2, 12 which runs along the supply line comprising a carrier and a detector line, with successive windings surrounding the supply line (see Figures 1-4, 5b). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the electrical system of Thrash and to provide the

detecting element with successive windings that surrounds the supply line as taught by Saito to provide enough proximity and coverage for the heat transfer to the detector when overheating occurs, and to facilitate easy handling and flexibility with the location of the detector line.

Regarding Claim 41, Thrash discloses the line arrangement, wherein the detector element is formed in such a way that it irreversibly deteriorates in its electrical property under the local effect of heat (Column 3, .lines 24-33, Column 4, lines 19-35, Column 6, lines 54-59, Column 7, lines 1-5).

Regarding Claim 43, Thrash discloses the line arrangement, wherein the detector element comprises at least one of electrical property, which is irreversibly changed when the arc occurs (Column 3, lines 24-33, Column 4, lines 19-35, Column 6, lines 54-59, Column 7, lines 1-5).

Regarding Claim 44, Saito discloses the line arrangement, wherein the detector line surrounds the supply line in the form of a helix (see Figures 1-2, 4, 5b).

Regarding Claims 45-46, Saito does disclose that the detector line surrounds the supply line in the form of a helix, and portions of the helix following one another in a longitudinal direction of the supply line and running transversely in relation to the longitudinal direction of the supply line are spaced apart from one another. Combination of Thrash and Saito does not disclose the detector line in form meanders with spacing between the portions of the helix less than approximately the diameter of the inner conductor. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the detector line of the combination of Thrash

and Saito in the form of meanders having predetermined spacing between the segments, such that more area of the supply line would be crossed/covered by the detector line to detect arc, and to meet the design parameters.

Regarding Claim 47, Thrash discloses that the detector line consists of a material, which irreversibly changes in its electrical and/or optical property when there is local ingress of an amount of heat that can be generated by the arc (Column 3, lines 24-33, Column 4, lines 19-35, Column 6, lines 30-32, Column 6, lines 54-59, Column 7, lines 1-5).

Regarding Claim 48, Thrash discloses that the detector line consists of an insulating material (polyester yarn), which irreversibly changes in its electrical property from a threshold temperature of about 256 degrees Celsius (column 4, lines 33-37).

Regarding Claim 49, Thrash discloses the line arrangement, wherein the detector line is surrounded by an insulating protective enclosure (Column 3, lines 17-21).

Regarding Claims 50-51, Saito discloses that the detector element 12 has a carrier 9 on which the detector line is disposed in the form of tracks applied as layer 10 on the carrier, and Thrash discloses that the detector element has a carrier on which the detector line is held, and the detector line is disposed in the form of conducting tracks on the carrier (Column 4, lines 25-28, stainless steel fiber twisted around a polyester yarn, polyester yarn reads on the carrier).

Regarding Claim 52, Saito discloses that the conducting track run in the manner of longitudinal tracks on the carrier, and does not disclose the manner of meanders. It would be obvious to one of ordinary skill in the art at the time the invention was made to

provide the conducting track of the combination of Thrash and Saito in the manner of meanders having predetermined spacing between the segments, such that more area of the supply line would be crossed/covered by the detector line to detect arc, and to meet the design parameters.

Regarding Claims 53-54, Saito discloses the line arrangement, wherein the carrier is given in the form of a carrier strip, wherein the carrier strip runs helically around the supply line (see Figures 1-4, 5b).

Regarding Claim 55, Thrash discloses the line arrangement, wherein the carrier surrounds the supply line at least partially (34 is in close proximity to 28 and partially surrounds it).

Regarding Claims 55-56, Saito discloses that the carrier surrounds the supply line at least partially or substantially (see Figures 4, 5b).

Regarding Claims 57-58, Thrash discloses that the carrier forms part of a protective enclosure for the detector line, and that carrier consists of a material, which irreversibly changes under the effect of the arc originating from the inner conductor (polyester yarn melts at around 256 degrees Celsius, Column 4, lines 34-37).

Regarding Claims 59-60, Thrash discloses that the carrier is connected to the detector line and consists of a material which under the local effect of the arc originating from the inner conductor irreversibly deforms/decomposes (polyester yarn melts around 256 degrees Celsius, Column 4, lines 34-37, Column 6, lines 54-59, Column 7, lines 1-5).

Regarding Claim 61, Thrash discloses that on account of its irreversible change under the local effect of the arc, the carrier irreversibly changes the electrical property of the detector line (insulation melts and conductor severs, see Column 4, lines 50-56, Column 6, lines 54-59, Column 7, lines 1-5).

Regarding Claim 62, Thrash discloses that the carrier locally interrupts the detector line (insulation melts and conductor severs, see Column 4, lines 50-56).

Regarding Claims 63-66, Thrash discloses that the detector element irreversibly changes/changes its electrical/optical property when it is mechanically damaged (mechanical force/stress when the carrier melts, causes the conductor to sever/open).

Regarding Claim 67, Thrash discloses that the detector line lies in a circuit specific to the detector line (see 34 connection in Figure 3). Regarding Claim 68, Thrash discloses that at least one detector circuit is provided which activates the isolating circuit (see 58 connected to 42, 44 in Figure 3).

Regarding Claims 69-70, Thrash discloses that the detector circuit is associated with the current feed terminal and current delivery terminal (see 42, 44 connections to 40 and 50 in Figure 3).

Regarding Claims 71-72, Thrash discloses that the detector circuit communicates with the isolating circuit by means of an electrical line or by means of light guide (34 can be conducting/optical fiber, therefore communicates electrically/optically).

Regarding Claim 73, Saito discloses a number of detector circuits (see 51-54 in Figure 14) are provided, and the detector circuits communicate with one another to sense a change the electrical property of the detector element.

Regarding Claims 74-75, Saito discloses that the detector circuits communicate with one another via an internal line within the line strand (see Figure 13 and communication lines from 46, 45 to 48), and via an external line outside the line strand (see external communication lines).

Regarding Claims 76-77, Thrash discloses communication using an electrical line/optical line (34 can be conductive/optical fiber).

Regarding Claim 78, Thrash discloses that the detector circuit detects the occurrence of a potential in the detector line other than that of the detector line (overheating is due to arc, which originates at the inner conductor, Column 6, lines 54-59).

Regarding Claims 79-80, Thrash discloses that the detector element comprises a detector line (fiber reads on detecting line), said detector line having an electrical property/optical, changes of said electrical property being detectable by detecting means (see 58 connected to 42 in Figure 3),

said detector line is comprised of a (polymer) material adapted in such a way that at least its electrical properties are irreversibly changed (fiber breaks or fuse together when the polyester yarn melts due to high temperature and the resistance/optical conductivity changes irreversibly changes, also see Column 1, lines 47-48, Column 3, lines 8-28, Column 6, lines 27-32), when a local arc originating from the current-carrying inner conductor occurs (Column 7, lines 1-5, Column 6, lines 54-59).

Claim 81 basically recites the elements of Claim 40, and additional detector element to have at least two detector elements. Saito discloses an additional detector element 14, 22 (see Figures 10-11).

Claim 85 basically recites the elements of Claim 40, and additional limitations. Regarding additional limitations, Thrash discloses that the detector element comprises a carrier and a detector line (Column 4, lines 25-28, stainless steel fiber twisted around a polyester yarn, polyester yarn reads on the carrier, fiber reads on detector line), said detector line having an electrical property/optical, changes of said electrical property being detectable by detecting means (see 58 connected to 42 in Figure 3), and

the carrier being connected to the detector line and consisting of a material which under the local effect of an arc originating from one of the at least one inner conductor irreversibly changes/deforms/change shape/contracts leading to mechanical stresses which actively acts on the detector line (fiber breaks or fuse together when the polyester yarn melts due to high temperature and the resistance/optical conductivity irreversibly changes), its behavior by exerting mechanical forces acting on the detector line and thus changing said at least one of said optical and electrical properties of said detector line due to the connection of said detector line to said carrier (mechanical force/stress when the carrier melts, causes the conductor to sever/open, Column 1, lines 47-48, Column 3, lines 8-28, Column 6, lines 27-32).

Claim 86 basically recites the elements of Claim 85, except that the carrier is limited as a strip on which the detector line is applied, and Saito discloses the carrier 9 in strip form on which the detector line 10 is applied in the form of a track (see Figure 3).

Claim 90 recites the elements of Claim 86, except that the detector element is limited to be surrounding the supply line in the form of a helix. Saito's detector element 2, 12 surrounds the supply line in the form of a helix (Figures 1-5), said detector element comprising a carrier strip 9 (Figure 3) and a detector line 10 (Figure 3) applied on said strip in the form of a detector track.

Claim 91-93 basically recites the elements of Claim 90, except that the form of the detector element(meanders in Claim 91, helix/meanders with portions spaced apart with spacing less than approximately the diameter of the inner conductor in Claim 92/93). Saito's detector element 2, 12 is in the form of helix, and it would be obvious to select the form of the detector element as helix, meanders, or any desired form with portions spaced apart to meet the design requirements, such as area of coverage, arc length to provide optimum protection.

Allowable Subject Matter

3. The indicated allowability of claim 82 is withdrawn in view of the newly discovered reference(s) to Crawford (US 3, 588, 689). Rejections based on the newly cited reference(s) follow.

4. Claim 82 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thrash (US 5,801,914) in view of Saito et al. (US 6,243,018) and Crawford (US 3,588,689). Claim 82 basically recites the elements of Claim 40, except that the limitation of irrespective of a direction of the parallel local arc is omitted, and an additional detector element to have at least two detector elements, each detector element comprising a

detector line and a carrier strip on which the detector line is held, said carrier strips being wound with opposite winding directions around the supply lines.

Thrash discloses that the detector element comprises a carrier and a detector line (Column 4, lines 25-28, stainless steel fiber twisted around a polyester yarn, polyester yarn reads on the carrier, fiber reads on detector line). Saito discloses an detector element 2, 12 having a carrier 9 and detector element 10, and additional detector element 14, 22 to have two detector elements (see Figures 10-11), but the detector elements are separated by an insulating layer 13 in between. Thrash and Saito do not disclose that the carrier strip being wound in opposite winding directions. Crawford discloses a protection system for a an electrical system(Figures 1-3) comprising two detector elements 16 (Figures 1, 3), each comprising a detector line 17 and a carrier strip 18, with the carrier strip wound in opposite winding direction provides optimal coverage of the supply line 11 to detect an arc/fault (Column 2, lines 35-39, 47-65). It would be obvious to one of ordinary skill in the art at the time the invention was made to provide the combination of Thrash and Saito, to have the additional detector element at the same location and wound in opposite direction as Crawford taught, to have maximum number of crossovers to cover maximum/optimum area where fault occurs.

Response to Arguments

Applicant's arguments filed on 5/24/2010 have been fully considered.

Regarding Applicant's arguments toward Thrash reference regarding the limitation of parallel local arcs:

Thrash, in Column 7, lines 1-5, discloses, "conductive fiber 34 will not break open during normal operation..., but will quickly break if excessive overheating conditions develop such as that caused by an electrical arc." That means, conductive fiber breaks open due to any excessive heating, including but not limited to, by an electrical arc, both parallel and serial (serial arcing due to a break in a current carrying conductor and parallel arcing due to arcing between two current carrying conductors). Also, in Column 6, lines 54-59, Thrash discloses, in the situation where two breaks occur in either conductor 28 or 30, the voltage drop across one or both breaks is usually very significant, resulting in the creation of an electrical arc. Such an arc, parallel and serial, as mentioned above, can generate excessive heat.

Examiner further notes that a break or damage in any one of the conductors of Thrash can result in both serial and parallel arc in any direction, serial when the arcing is between the two broken ends of the same conductor, and parallel when the arcing is between the conductors or between a conductor and a ground. A break in one of the conductors can result in the damage of insulation near it and cause parallel arcing to an external ground. Any type of arcing, serial or parallel, produces heat and Thrash's detector element 34 changes its electrical/optical properties due to heat from local arc. In another words, the detector element is responsive to the heat resulting from the arc. It is true that the location and placement of the detector element may have some effect in the response time of the detector, but not in the function of the detector.

The Applicant argues on Page 19 of the Remarks that in the design of Thrash, there can only occur a serial arc, and further on Page 20 that it appears that Thrash is specifically designed to prevent the occurrence of parallel arcs.

Examiner respectfully disagrees. It is true that Thrash discloses a design (ends of each conductor are connected together and coupled to the operating power) to prevent a single break in either conductor 28 or 30 creating an overheating condition. As Thrash clearly discloses in Column 6, lines 54-59, when two breaks occur in either conductor 28 or 30, the voltage drop across one or both breaks high enough to create arcs. In this case, serial arcing occurs across the break in the same conductor and parallel arcing across the break between the conductors. As Thrash discloses, "such an arc, as mentioned above, can generate excessive heat which, if the operating power is not discontinued, can create a hazardous situation by burning PTC material 26, insulating coating 32, and ultimately the fabric of blanket 10." The arc referred above, which creates excessive heat, can be a serial and/or parallel arc.

Regarding Applicant's arguments toward the limitation, for an electrical system of vehicle, and to a body component of the vehicle, the examiner notes that Thrash discloses in Column 2, lines 3-8, that the "invention can be implemented in all types of electrical circuits, electrical devices, and **power cords**, including, but not limited to electric blankets, electric heating pads, electric motors, and wiring circuitry for building" and therefore, includes the electrical system of a vehicle. Furthermore, it is noted that the limitation, for an electrical system of vehicles/to a body component of a vehicle, is interpreted as the intended use of the line arrangement, and as such, as long as

Thrash's line arrangement is capable of being used for an electrical system of a vehicle, the reference meets the limitations.

Regarding Applicant's arguments that Thrash discloses heating element and would not obvious to use in non-heating elements of a vehicle, examiner further notes that Figure 3 of Thrash shows portions of 28, 30, and 34 without the heating material, or power cord with detector line running along the supply line to provide protection.

The Applicant argues that the line connected to switch 18 of Thrash does not include the conductors 28, 30, and fiber 34.

In response, examiner notes that Figure 3 shows ends 54, 56 of conductor 30, and one end of fiber 34 connected to 60, and ends 50, 52 of conductor 28 connected to corresponding point (after switch 48), and one end of fiber connected to point 58, and all these connecting points 58, 60, and connecting point on top line conductor, are lined up. This indicates that conductive fiber runs along the conductors to the same point, outside the controller 16 comprising the switch 18 and isolating relay 44 as shown in the schematics of Figure 3, and Thrash meets the limitation of a detector element running along the supply line.

Regarding Applicant's arguments toward Thrash and Saito combination for the rejection of claims, examiner notes that the primary reference, Thrash discloses all elements (of Claim 40 for example), including the detector element having at least one of an optical property and an electrical property that are irreversibly changed due to arc (breaking or interrupting the detector line), except for the successive windings surrounding the supply line for the detector element. The secondary reference, Saito is

relied upon for the teaching of a detector line with successive windings that surrounds a supply line, not for the teaching of breaking or interrupting of the detector line.

Regarding Applicant's arguments towards the rejections of Claims 45-46, examiner notes that the secondary reference Saito is relied upon for the limitation of the detector line "surrounds the supply line in the form of helix" and that the form helix or meanders, and spacing between the detector line would be a selection based on design parameters.

Regarding Claims 50, 85-86, 90-93, the Applicant argues that the polyester yarn of Thrash is not a carrier of stainless steel fiber.

Examiner respectfully disagrees. In Column 4, lines 19-28, Thrash discloses the preferred material for conductive fiber as stainless steel fiber (detector line) **twisted around** polyester yarn (carrier), and the fiber and yarn are connected. Examiner further notes that there is no support in Thrash for the Applicant's arguments that both (fiber and yarn) are abutting. The carrier of Thrash, polyester yarn melts, deforms, or contract depending on the temperature it is exposed to, in this case the arcing temperature. It is true that Thrash does not disclose the limitation of detector line "applied as a layer" on the carrier, and the secondary reference Saito is relied upon the limitation (detector line 10 and carrier 9 in Figure 3 of Saito). Examiner further notes that Thrash, in Column 4, lines 33-37 discloses, "The polyester contained within this most preferred material has a typical melting point of 256 degrees Celsius, and the stainless steel has a typical melting point of approximately 1500 degrees Celsius." This clearly teaches that the carrier (polyester yarn) deforms/melts/contracts/change shape under the effect of an arc

before the temperature reaches dangerous level, and when the carrier, which provides mechanical strength and insulation for the fiber melts, and causes mechanical stresses/forces to result in a break and change in the electrical/optical properties of the fiber changes. Examiner further notes that in Column 4, lines 17-18, Thrash discloses, "Many types of optical fibers can also be used for conductive fiber 34." Stainless steel fiber and polyester fiber is only one of the many possible combinations of materials for the detector element and carrier track taught by Thrash (see Column 3-, line 29-Column 4, line 18).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucy Thomas whose telephone number is 571-272-6002. The examiner can normally be reached on Monday - Friday 8:00 AM - 4:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fureman Jared can be reached on 571-272-2391. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lucy Thomas/
Examiner, Art Unit 2836,
8/23/2010

/Jared J. Fureman/
Supervisory Patent Examiner, Art Unit 2836